## AMENDMENTS TO THE CLAIMS

Please cancel claims 1 to 8, 10 to 16, 19, 21 to 24, and 26 to 46, without prejudice or disclaimer of subject matter; amend claims 9, 17, 18, 20 and 25; and add new claims 47 to 58, as shown below. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. to 8. (Cancelled).

9. (Currently Amended) The method ~~of claim 1~~ of claim 47, wherein the ~~first marker is an~~ plurality of guide elements are each an instantiation of an object class in an object-oriented programming language, and linked to the ~~first data~~ record via a pointer.

10. to 16. (Cancelled).

17. (Currently Amended) The method ~~of claim 1 wherein assigning the first marker to the first data record includes~~ of claim 47, wherein each of the plurality of guide elements are associated with a record by changing a value of a first bit within a first bitmap.

18. (Currently Amended) The method of claim 17 wherein bits within the bitmap correspond in number to a total amount of ~~data~~ records available for searching.

19. (Cancelled).

20. (Currently Amended) The method ~~of claim 19~~ of claim 17 further comprising:
linking a first result set identifier with the first bitmap via a first pointer; and
linking a second result set identifier with a second bitmap via a second pointer,

wherein the first result set identifier and the second result set identifier are linked together in a ~~second~~ tree structure.

21. to 24. (Cancelled).

25. (Currently Amended) The method of claim 17 further comprising associating the first bit with the first ~~data~~ record by calculating a bitmap memory address of the first bit relative to a data record memory address of the first ~~data~~ record.

26. to 46. (Cancelled).

47. (New) A method for performing a logical OR operation, comprising:

generating first and second result sets, each result set further comprising a plurality of guide elements each associated with a record, the first result set including fewer guide elements than the second result set;

selecting the first result set;

iteratively checking whether each of the plurality of guide elements of the first result set also exists in the second result set;

renaming at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set does not exist in the second result set;

deleting the at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set exists in the second result set;

linking the renamed at least one of the plurality of guide elements of the first result set with the plurality of guide elements of the second result set, as the final result set; and

outputting the final result set.

48. (New) The method of claim 47,

wherein the first result set further comprises a counter, and

wherein the counter is decremented if the at least one of the plurality of guide elements of the first result set exists in the second result set.

49. (New) A method for performing a logical AND operation, comprising:

generating a result set based upon a first condition, the result set further comprising a plurality of guide elements each associated with a record;

iteratively selecting each of the plurality of guide elements;

checking the record associated with each of the plurality of guide elements based upon a second condition;

deleting at least one of the plurality of guide elements if the second condition is not met by the at least one of the plurality of guide elements;

linking a predecessor of a deleted at least one of the plurality of guide elements with a successor of the deleted at least one of the plurality of guide elements; and

outputting the result set as the final result set.

50. (New) The method of claim 49,

wherein the result set further comprises a counter; and

wherein the counter is decremented if the second condition is not met by the at least one of the plurality of guide elements.

51. (New) A method for performing a logical AND operation, comprising:

generating first and second result sets, each result set further comprising a plurality of guide elements each associated with a record, the first result set including fewer guide elements than the second result set;

selecting the first result set;

iteratively checking whether each of the plurality of guide elements of the first result set also exists in the second result set;

deleting at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set does not exist in the second result set;

linking a predecessor of a deleted at least one of the plurality of guide elements with a successor of the deleted at least one of the plurality of guide elements; and

outputting the first result set as the final result set.

52. (New) The method of claim 51,

wherein the first result set further comprises a counter, and wherein the counter is decremented if the at least one of the plurality of guide elements of the first result set exists in the second result set.

53. (New) A method for performing a logical NOT operation, comprising:

generating a first result set based upon a condition, the result set further comprising a plurality of guide elements each associated with a record;

iteratively checking each of a plurality of records for a guide element of the first result set associated with the each of the plurality of records;

instantiating a guide element in a second result set associated with each of the plurality of records not associated with a guide element of the first result set;

linking guide elements of the second result set;

deleting the first result set; and

outputting the second result set as the final result set.

54. (New) The method of claim 52,

wherein the second result set further comprises a counter, and

wherein the counter is incremented for each instantiated guide element.

55. (New) A computer program product, tangibly stored on a computer-readable medium, for performing a logical OR operation, the product comprising operable to cause a programmable processor to:

generate first and second result sets, each result set further comprising a plurality of guide elements each associated with a record, the first result set including fewer guide elements than the second result set;

select the first result set;

iteratively check whether each of the plurality of guide elements of the first result set also exists in the second result set;

rename at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set does not exist in the second result set;

delete the at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set exists in the second result set;

link the renamed at least one of the plurality of guide elements of the first result set with the plurality of guide elements of the second result set, as the final result set; and

output the final result set.

56. (New) A computer program product, tangibly stored on a computer-readable medium, for performing a logical AND operation, the product comprising instructions operable to cause a programmable processor to:

generate a result set based upon a first condition, the result set further comprising a plurality of guide elements each associated with a record;

iteratively select each of the plurality of guide elements;

check the record associated with each of the plurality of guide elements based upon a second condition;

delete at least one of the plurality of guide elements if the second condition is not met by the at least one of the plurality of guide elements;

link a predecessor of a deleted at least one of the plurality of guide elements with a successor of the deleted at least one of the plurality of guide elements; and

output the result set as the final result set.

57. (New) A computer program product, tangibly stored on a computer-readable medium, for performing a logical AND operation, the product comprising instructions operable to cause a programmable processor to:

generate first and second result sets, each result set further comprising a plurality of guide elements each associated with a record, the first result set including fewer guide elements than the second result set;

select the first result set;

iteratively check whether each of the plurality of guide elements of the first result set also exists in the second result set;

delete at least one of the plurality of guide elements of the first result set if the at least one of the plurality of guide elements of the first result set does not exist in the second result set;

link a predecessor of a deleted at least one of the plurality of guide elements with a successor of the deleted at least one of the plurality of guide elements; and

output the first result set as the final result set.

58. (New) A computer program product, tangibly stored on a computer-readable medium, for performing a logical NOT operation, the product comprising instructions operable to cause a programmable processor to:

generate a first result set based upon a condition, the result set further comprising a plurality of guide elements each associated with a record;

iteratively check each of a plurality of records for a guide element of the first result set associated with the each of the plurality of records;

instantiate a guide element in a second result set associated with each of the plurality of records not associated with a guide element of the first result set;

link guide elements of the second result set;

delete the first result set; and

output the second result set as the final result set.